

U.S. Antarctic Marine Living Resources Program

2010-2011 Weekly Field Reports

Cape Shirreff, Livingston Island

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Seabirds:

1. Chinstrap penguins have finished crèche formation this week. Of our chinstrap penguin reproduction plots 63% of the nests had chicks that crèched and 37% have failed. The average date of crèche formation was 31 January. The average age of chicks when first crèched was 37 days and on average 1 chick crèched per nest.
2. In addition to the reproductive study, we also follow the fate of 50 chinstrap nests in a manner that minimizes disturbance to the birds, 88% of nests in the non-disturbance sites crèched at least one chick and 12% have failed, 1.36 chicks crèched per nest.
3. We have finished monitoring known-age penguins. Of the 38 known-aged gentoo penguins that initiated clutches and didn't relay 68% have chicks that have crèched, and 32% failed. Of the 3 known-aged gentoo penguins that initiated clutches, failed and relayed 33% have chicks that have crèched and the other 67% failed again. On average 0.74 gentoo chicks were crèched per nest. Of the 61 known-aged chinstraps penguin that have initiated clutches 52% have chicks that have crèched, 48% failed and on average 0.74 chicks were crèched per nest.
4. On 8 February we conducted our annual chinstrap penguin chick census. We counted a total of 4303 chicks. This is 70% of the previous 14 year average of 6145 and 114% of last year's count of 3762.
5. On 11 February we banded 250 chinstrap penguin chicks and on 9 February we banded 200 gentoo chicks. In the future, resights of these bands will help us determine cohort survival and with luck some of these penguins will become part of our known age reproduction study.
6. We are searching for and retrieving instruments from chinstrap penguins that we deployed last week.
7. We have completed collecting diet samples from penguins. In total we collected 40 diet samples from chinstrap penguins and 20 from gentoo penguins. Chinstrap penguin diet samples have consisted almost entirely of Antarctic krill (*Euphausia superba*) with trace amounts of fish. Gentoo penguin diet samples were a mix of Antarctic krill and fish with two samples containing octopus. We found otoliths from the species *Gymnoscopelus nicholsi*, *Lepidonotothen kempii*, *Pleurogramma antarcticum*, *Tremptomis newnesi*, *Electrona carlbergii*, *Electrona antarctica* and an unknown species. Average krill length for gentoo diets was 45.2mm and average krill length for chinstrap diets was 40.9. The sex ratio of krill in the diets of both gentoos and chinstraps was 54.33% male, 25.96% female with 19.72% juvenile krill of undetermined sex.
8. Of the nineteen pairs of brown skuas that we are monitoring 13 nests are still active, and 6 nests have failed.
9. On 13 February we observed a rockhopper penguin on one of our study beaches. There has also been a juvenile macaroni penguin consistently seen with molting chinstrap penguins on colony 3.



Pinnipeds:

10. Currently we have 10 female/pup pairs of the original 30 remaining in our attendance study. Trip length averaged 2.8 (n = 7) for the week. The last 3 GPS instruments remain at large and will be recovered in the coming week.
11. We deployed 9 light sensor tags (GLS) on adult female fur seals, and we still have another 9 to deploy. This will give us the location of the seals on their movement overwinter based on light intensity.
12. Fur seal diet sampling continued this week with the collection of 10 scat samples from areas of suckling females.
13. Systematic surveys of defined areas of the Cape for the 500 per annum fur seals tagged as pups continued this week. This will give us a measure of tags sighted per unit of effort for different cohorts and for different areas of the Cape.
14. To date, with the combine effort of opportunistic and systematic re-sight surveys, we have seen the following percent return for the last ten year classes: (1997) 1.0%; (1998) 0.4%; (1999) 4.4%; (2000) 1.4%; (2001) 3.4%; (2002) 1.0%; (2003) 0.8%; (2004), 0.0%; (2005) 1.4%; (2006) 2.4%; (2007) 1.0% (5 individuals), (2008) 0.8%, (2009) 2.2% A total of 101 different known-age individuals have been seen so far. Quite a few (11) yearlings have been arriving and we hope to see more tagged ones in the remaining weeks.
15. We have flipper tagged 44 pups of tagged adult females this season. From the CCAMLR pup weigh of last week the average weight for males is 13.9kg, and for females 11.8kg. Our remaining 351 tags for the year will be put out during the next three weeks. We have tagged 141 pups this season We will put out the remaining 359 tags on pups in the next few weeks.
16. We continue to see new leopard seals arriving that have been tagged in previous years at the cape. We have seen 25 tagged leopard seals this season. There are also a number of untagged leopard seals, the highest count of untagged leopard seal in a day was 10.



Weather:

17. Winter seems to have arrived and the evenings are getting dark earlier. We had a high of 7.1°C and a low of 0.0°C. Mean wind speed for the week was 10.8mph and the max. gust was 37.0mph. More than 60% of the recorded wind directions were from the west. Precipitation for this week was 0.4 inches.

Camp:

18. Our camp is running smoothly and all power and communication system are in operation. The R/V *Moana Wave* departed Punta Arenas, Chile on 13 Feb 2011 and is now enroute to the Antarctic Peninsula area on its second and final leg. We will maintain a daily email schedule with the R/V *Moana Wave* while it completes its second leg operations.
19. This week we started the “closing camp” duties. Jefferson built and painted, along with the “penguinas”, the window covers for the penguin blind; the “fursealers” worked on scraping the walls of the hut, so that we can be ready to paint the camp at the first sunny day. Hopefully the next week will bring us a little more sun so we can finish the maintenance of the exterior and repaint the camp.
20. For the first time this week, I had the feeling that we are getting close to the end of the season. We still have a lot to do before the season ends, but starting those camp maintenance jobs give the feeling that we are getting there. Also it is funny seeing how frequently the South America traveling guides appear around camp, as everyone is thinking on where to go and how to spend a well deserved vacation after this busy season.
21. Today is Valentine’s Day! We will celebrate with a “lovely” dinner...I am on dinner rotation, wish me luck! Happy Valentine’s Day from Cape Shirreff.

Submitted by AMLR staff currently residing at the Cape Shirreff field camp, Livingston Island.

